IN THE CLAIMS

Please substitute the following claims for all prior claims. Any amendments to the claims are clearly indicated below:

1. (Previously Presented) A method of cleaning a machine component using a laser beam, the method comprising:

programming a controller coupled to a laser source for controlling the laser source of the laser beam to perform laser ablation, wherein said controller accesses a database having laser power level data corresponding to various machines components;

inputting to the controller information regarding the machine component to be cleaned;

determining a laser power level corresponding to the machine component by interrogating the database to determine a laser power level corresponding to the machine component, and

directing the laser beam at the machine component surface for vaporizing surface contaminants and coatings deposited on said surface without changing base material properties of said machine component, wherein the laser beam is at the laser power level corresponding to the machine component.

2. (Previously Presented) The method of claim 1, further comprising:

coupling the controller to a computer system having a processor and said database;

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loading the database with the corresponding laser power level data, wherein said data indicates a laser power level for ablating surface contaminants or coatings from the surface and loading the database with machine component surface condition data;

providing a detector to monitor the ablation of surface contaminants or coatings, and provide feedback data to the computer system;

comparing the feedback data with the machine component surface condition data to determine progress of ablation; and

controlling the laser source depending on the comparison step.

3. (Previously Presented) The method as in claim 1, further comprising: disposing of vapors generated during laser ablation.

4 to 8 (Cancelled).

9. (Previously Presented) A laser-based method for cleaning a machine component, the method comprising:

programming a controller coupled to a laser source for controlling the laser source of the laser beam to perform laser ablation, wherein said controller accesses a database having data related to various machine components and corresponding laser power related data for ablating contaminants and coatings from the respective components;

inputting to the controller information regarding the machine component to be cleaned;

determining a laser power level corresponding to the machine component by interrogating the database to identify the corresponding laser power data for the inputted machine component;

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controlling a laser source to apply a laser beam for performing laser ablation and operating at the determined laser power level;

directing the laser beam towards a component surface for vaporizing surface contaminants or coatings deposited on the component surface without changing base material properties of the component;

communicatively coupling a computer system having a processor and a database to the controller;

monitoring ablation process of the component using a detector, the detector being disposed adjacent to the component;

receiving feedback data from the detector at the computer system;

comparing the feedback data with predetermined data in a comparator to determine progress of ablation; and

controlling the laser source depending on the comparison step.

10 to 12 (Cancelled).

13. (Previously Presented) A method as in claim 1 further comprising:

interrogating the database to obtain machine component data corresponding to the machine being cleaned;

collecting vaporization data indicating surface conditions on the machine component surface being vaporized, and

comparing the collected vaporization data with the machine component data to determine whether to cease vaporization of the surface by the laser beam.

14. (Previously Presented) A method as in claim 13 wherein the machine component data is at least one of data consisting of machine component material composition, thickness of a base material of said machine component, composition of a coating of the machine component, and thickness of the coating of the machine component.

15. (Previously Presented) A method as in claim 2 wherein the machine component surface condition data is at least one of data consisting of machine component material composition, thickness of a base material of said machine component, composition of a coating of the machine component, and thickness of the coating of the machine component.

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